

ABSTRACT

A communication device such as a cable modem that has a first interface for receiving data from a cable media, and a pattern matching engine that evaluates patterns in the data that is received at the first interface of the cable modem and that enables the determination of appropriate procedures for treatment of the data. The pattern matching engine of the cable modem may be configured to match address segments of the data that is received at the first interface of the cable modem. In addition, the pattern matching engine is often a programmable pattern matching engine that may be programmed according to patterns that are desired to be matched during various operations of the cable modem. Of note, the pattern matching engine enables pattern matching of various length frame portions. Various aspects of the present invention may also be found in a method for a communication device to compare a predetermined pattern to a pattern that corresponds to a portion of a data frame. The method includes determining acceptable parameters for the data frames that are to be received at the communication device; programming the acceptable parameters into a pattern matching engine in the communication device; receiving a data frame at the communication device; parsing the data frame to obtain a predetermined portion of the data frame; comparing the predetermined portion of the data frame with the acceptable parameters stored in the pattern matching engine; and registering the result of the comparison in a suitable format for access by a microprocessor.